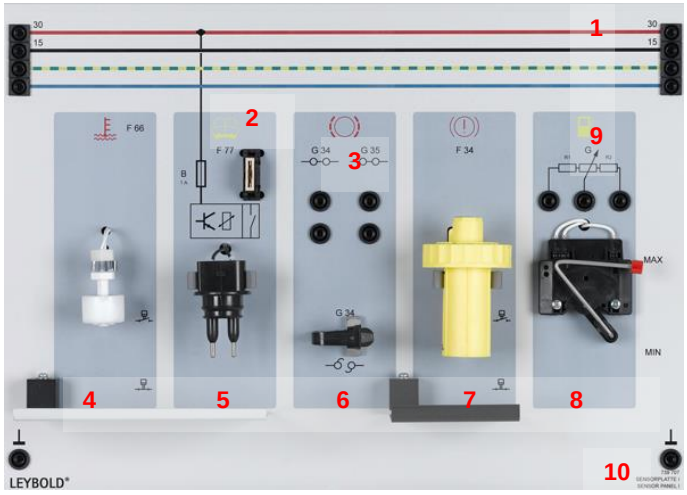
PHYSIK CHEMIE BIOLOGIE TECHNIK

LD DIDACTIC

10/14-W2010-Wei

Instruction Manual 739 707

Sensor Panel 1



1 T30 positive connection
2 Fuse for washing fluid sensor electronics (1 A)
3 Wear on the brake pads simulation
4 Coolant level sensor
5 Washer fluid level sensor
6 Wear on the brake pads sensor
7 Sensor for brake fluid level
8 Tank content sensor
9 Sensor resistance measurement sockets
10 Ground connection

1 Description

This device helps study the operating principle of various analog sensors in connection with the *Instrument cluster unit*, *739 6021*.
The device comes with sensors to monitor the coolant level, the windshield washer fluid level, the wear on the brake pads, the brake fluid level as well as the tank content.

Safety notes

- The device is appropriate for interior use only!
- Use only safety bridging plugs and safety connection leads!
- Be careful not to short-circuit the power supply. Fire hazard!
- Only use the device for training purposes. Installation in an actual vehicle is prohibited!

2 Scope of Supply

- Sensor panel 1, 739 707
- Set of holders (3 pieces)

3 Technical Data

Supply voltage:	U = 12 V=
Coolant sensor type:	reed contact
Washer fluid sensor type:	conductivity with evaluation unit
Brake pad sensor type:	mechanical
Brake fluid sensor type:	reed contact
Tank sensor type:	potentiometric
Tank sensor resistance:	R = 340 Ω

4 Setup and Function Check

- Connect the device to the power supply at Terminal 30 **(1)** and the ground **(10)**.
- Link both 7-pin sockets (26 and 26) on the back with the *Instrument cluster unit*, *739 6021*.
- Plug two 4 mm safety bridging plugs into the sockets **(3)** to bypass the interrupted brake pad wear sensors.
- Place 100 ml beakers filled with water under sensors **4**, **5** and **7**. For better handling, you can swing the holders forward.
- Position the lever for the tank sensor **(8)** on "MAX."

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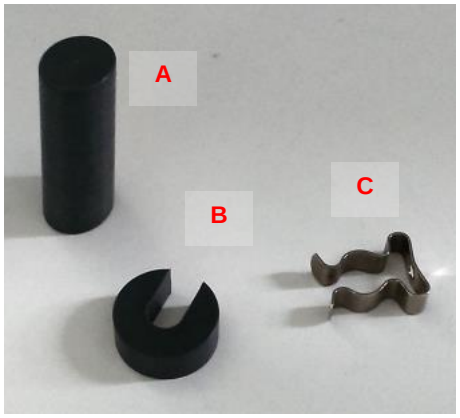
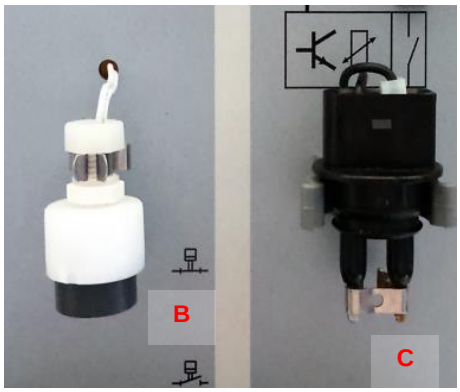
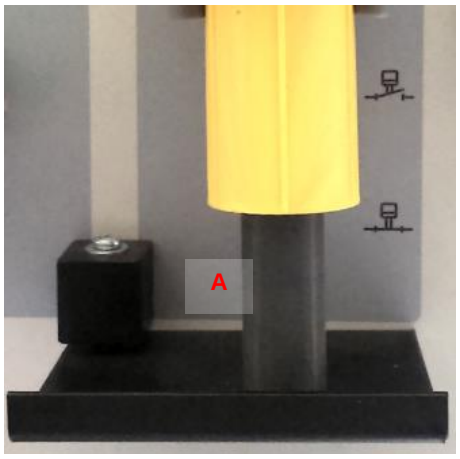
- Or place the spacers/contact pieces as shown:







- Switch the equipment on.
- The *instrument cluster unit*, *739 6021*, does not display any error message.
- Remove a bridging plug from the sockets **(3)**, for example. This triggers a visual and acoustic warning message.

5. Functional Description

Coolant level (4)

A magnet in a float monitors the coolant's level by triggering a reed contact. With a normal coolant level, the contact is closed; if the coolant is too low, it is open. The sensor is at the top of the container and moves vertically. A broken cable in the sensor's connector also leads to a warning.

Washer fluid level (5)

Two electrodes, which protrude at the bottom of the washer fluid's container, monitor the windshield washer fluid's level. Connected electronics evaluate the resistance between them. If they are dry, the value is infinite, and the electronics open a relay contact. The sensor's installation position is arbitrary. A broken cable in the sensor's connector also leads to a warning.

Wear on the brake pads (6)

A conductor loop incorporated in the pad monitors the thickness of the brake pads by breaking from friction when a minimum thickness is reached. A broken cable in the sensor's connector also leads to a warning.

Brake fluid level (7)

A magnet in a float monitors the brake fluid's level by triggering a reed contact. With a fluid level, the contact is closed; if the level is too low, it is open. The sensor is at the top of the container and moves vertically.

Tank content (8)

A floating body monitors the tank content by moving a potentiometer. To protect the equipment, it has an upstream, fixed resistor in the positive and negative wires. A broken cable in the sensor's connector leads to a "Low fuel" warning.

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